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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,297	09/10/2003	Gary A. Gibson	200310982-1	5476

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HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER

BHAT, ADITYA S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/660,297

Applicant(s)

GIBSON ET AL.

Examiner

Aditya S. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

With regards to claims 13-22 the methods recited in the claimed invention do not produce a real life, real world, useful, concrete, and tangible result.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See In re Warmerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459. Nor can one patent "a novel and useful mathematical formula," Flook, 437 U.S. at 585, 198 USPQ at 195; electromagnetism or steam power, O'Reilly v. Morse, 56 U.S. (15 How.) 62, 113-114 (1853);

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Please view the following guidelines to overcome 35 U.S.C. 101 rejection made in this office action.

<http://www.uspto.gov/web/offices/com/sol/oq/2005/week47/patgupa.htm>

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 13-19, and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Hong et al. (USPN 2003/0202456) .

With regards to claim 1, Hong et al. (USPN 2003/0202456) teaches a data storage device comprising:

a probe tip mounted on a suspension mechanism; (10&12;Figure 1)

a data storage layer; (20;figure 1)

at least one conducting layer wherein a capacitance is formed between the suspension mechanism and the at least one conducting layer; (Page 3, paragraph 0030) and

a sensor for sensing a change in the capacitance based on a displacement of the probe tip due to the presence of a bit. (Page 4, paragraph 0037)

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With regards to claim 2, Hong et al. (USPN 2003/0202456) teaches the data storage layer is in contact with the probe tip. (Page 3, paragraph 0036)

With regards to claim 3 and 22, Hong et al. (USPN 2003/0202456) teaches the data storage layer includes the bit and the bit comprises at least one of a pit or protrusion (Page 3, paragraph 0030)

With regards to claim 4, Hong et al. (USPN 2003/0202456) teaches the data storage layer comprises a polymer material. (Page 3, paragraph 0030)

With regards to claim 5, Hong et al. (USPN 2003/0202456) teaches the conducting layer comprises a conducting thin film. (Page 3, paragraph 0030)

With regards to claim 6, Hong et al. (USPN 2003/0202456) teaches the conducting thin film comprises at least one of a deposited metal film of Mo, Cu, TA and an alloy. (Page 3, paragraph 0030)

With regards to claim 7, Hong et al. (USPN 2003/0202456) teaches the conducting layer comprises a conducting substrate (Page 3, paragraph 0030)

With regards to claim 8, Hong et al. (USPN 2003/0202456) teaches the conducting substrate comprises a doped silicon material. (Page 3, paragraph 0029)

With regards to claim 9, Hong et al. (USPN 2003/0202456) teaches the suspension mechanism includes a flexible cantilever. (Page 3, paragraph 0035)

With regards to claim 10, Hong et al. (USPN 2003/0202456) teaches the capacitance is formed on at least on side of the flexible cantilever. (Page 4, paragraph 0037)

With regards to claim 13, Hong et al. (USPN 2003/0202456) teaches a method of reading data from a data storage device comprising:

suspending a probe tip over a data storage layer via a suspension mechanism;  
(10&12;Figure 1)

providing at least one conducting layer wherein a capacitance is formed between the suspension mechanism and the at least one conducting layer; (Page 3, paragraph 0030) and

sensing a change in the capacitance based on a displacement of the probe tip due to the presence of a bit. (Page 4, paragraph 0037)

With regards to claim 19, Hong et al. (USPN 2003/0202456) teaches a the suspension mechanism further includes a flexible cantilever and the act of providing at least one conducting layer further comprises providing a conducting layer within the suspension mechanism whereby a capacitance is formed between the conducting layer and the flexible cantilever. (Page 4, paragraph 0037)

With regards to claim 21, Hong et al. (USPN 2003/0202456) teaches the act of sensing a change in capacitance comprises sensing a difference in capacitance between the first and second capacitance. (Page 1, paragraph 0015)

With regards to claim 23, Hong et al. (USPN 2003/0202456) teaches a computer system comprising:

a central processing unit; and a data storage device coupled to the central processing unit comprising: (70;figure 1)

a probe tip mounted on a suspension mechanism; (10&12;figure 1)

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a data storage layer; (20;figure 1)

at least one conducting layer wherein a capacitance is formed between the suspension mechanism and the at test one conducting layer; (figure 1) and

a sensor for sensing a change in the capacitance based on a displacement of the probe tip due to the presence of a bit. (Page 4, paragraph 0037)

With regards to claim 24, Hong et al. (USPN 2003/0202456) teaches a data storage device comprising:

a probe tip mounted on a flexible suspension mechanism; (10&12;figure 1)

at least one capacitor coupled to the flexible suspension; (Page 4, paragraph 0037) and

a sensor for sensing a change in capacitance of the at least one capacitor based on a displacement of the probe tip due to the presence of a bit (Page 4, paragraph 0037)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. (USPN 2003/0202456) in view of Min et al. (USPUB 2003/0210640).

With regards to claim 11,12 and 20, Hong et al. (USPN 2003/0202456) does not appear to teach forming a capacitance on both sides of the cantilever.

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Min et al. (USPUB 2003/0210640) teaches forming a capacitance on both sides of the cantilever. (page 1, paragraph 0011)

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the Hong invention to form a capacitance on both sides of the cantilever taught by Min in order to improve the linearity, the size and sensitivity of a detection signal. (page 1, paragraph 0012)

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection. In view of the above rejections the finality of the office action dated 11/09/2005 is withdrawn.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maeda et al. (USPUB 2005/0047288) teaches a recording medium having position recognition structure and position recognition apparatus.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

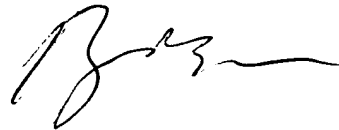


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aditya Bhat  
May 24, 2006

BRYAN BUI  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Bui', with a long horizontal flourish extending to the right.